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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,848	10/30/2003	Douglas L. McMakin	50005-145	9762

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EXAMINER	
ALSOMIRI, ISAM A	

ART UNIT	PAPER NUMBER
3662	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/697,848	MCMAKIN ET AL.	
	Examiner	Art Unit	
	Isam Alsomiri	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *21-26,28-31,34 and 35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20,27,32,33 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *111306;091806*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

This application contains claims directed to the following patentably distinct species:

[A] The species of generating the data by incoherently combining multiple image data sets, which appears to be the subject matter of at least claim 27.

[B] The species of generating the data by combining multiple imaged data sets using an averaging technique, which appears to be the subject matter of at least claim 28.

[C] The species of generating the data by combining the image data using a weighting function, which appears to be the subject matter of at least claim 27.

The species are independent or distinct because each species requires a separate search and each is mutually exclusive from the other species.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, at least claims 1, 8, and 15 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

During a telephone conversation with Patrick Bible Reg. No. 44,423 on November 22, 2006 a provisional election was made with traverse to prosecute the invention of species [A], claims 1-20, 27, 32, 33, and 36. Affirmation of this election must be made by applicant in replying to this Office action. Claims 28-31 and 34-35 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12, 14-20, 32, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheen et al. US005859609A in view of Yukl US006057761A.

Referring to claim 1, Sheen discloses in figures 2 an array to define an interrogation region therebetween, the array being structured to turn about the interrogation region to interrogate a person in the interrogation region with electromagnetic radiation at one or more frequencies in a range of about 200 MHz to about 1 THz to provide corresponding interrogation signals (see col. 4 lines 14-15); and one or more processors operable to establish data corresponding to a topographical representation of the person determined from the interrogation signals and generate an output as a function of the data (see col. 9 lines 35-39); a device responsive to the output to provide an indication to an operator if the person is suspected of carrying one or more concealed objects that pose a threat to security (see figure 1). Sheen teaches only one array that rotates around the target for the interrogation. Yukl teaches a similar system for interrogating a target using two arrays 16, 18, and the target rotates around the two target for quicker scan. It would have been obvious to modify Sheen's system to include two arrays spaced apart as in Yukl, and to rotate the arrays around the target in half the time a single array takes; therefore, obtaining quicker full scan of the target.

Referring to claim 2, the combination of Sheen and Yukl teaches the arrays are each provided with a panel and a mechanism to move a corresponding one of the arrays along a curvilinear path about the interrogation region.

Referring to claim 3, the combination teaches the curvilinear path approximates an arc of a circle.

Referring to claim 4, the combination is silent about the panel for each of the arrays is at least partially transparent to facilitate viewing therethrough by an operator. However, having a partially transparent panel is very well known. It would have been obvious to modify the combination to use the claimed panel for monitoring the interrogation or the person inside the system.

Referring to claim 5, the combination teaches the device includes a display and the one or more processors include means for generating the output in a form representative of one or more cross sectional views of the person (see figure 1-2).

Referring to claims 6, 10, 16-17, the combination teaches the arrays are each structured to operate at several different frequencies (see Sheen col. 2 lines 30-33) and each inherently correspond to an arc about the interrogation region subtending an angle of at least 120 degrees.

Referring to claims 7, the combination teaches the one or more processors are operable to generate the data by combining data sets corresponding to a number of different cylindrical images and the arrays are each structured to provide a semi-cylindrical scan (see col. 2 lines 27-30).

Referring to claims 8, 15, 32 and 36, Sheen discloses in figures 2 an array to define an interrogation region therebetween, the array being structured to turn about the interrogation region to interrogate a person in the interrogation region with electromagnetic radiation at one or more frequencies (see col. 2 lines 30-33) in a range

of about 200 MHz to about 1 THz to provide corresponding interrogation signals (see col. 4 lines 14-15); and one or more processors operable to establish data corresponding to a topographical image determined from the interrogation signals and generate an output as a function of the data (see col. 9 lines 35-39); a device responsive to the output to provide an indication to an operator if the person is suspected of carrying one or more concealed objects that pose a threat to security (see figure 1). Sheen teaches only one array that rotates around the target for the interrogation. Yukl teaches a similar system for interrogating a target using two arrays 16, 18, and the target rotates around the two target for quicker scan. It would have been obvious to modify Sheen's system to include two arrays spaced apart as in Yukl, and to rotate the arrays around the target in half the time a single array takes; therefore, obtaining quicker full scan of the target. The combination teaches generating topographical representation of a person that inherently include the contour of the body (see figures 6-12), which reads on the claimed "volumetric data" from the image data sets, the volumetric data being indicative of the surface of the person (see col. 2 lines 27-30).

Referring to claim 9, the combination teaches moving each of the arrays along a path positioned about the person (see figure Yukl figure 1).

Referring to claim 11, it's inherent that at least a portion of the path is rectilinear.

Referring to claims 12, 19-20, the combination teaches displaying one or more cross sectional views of the person based on the volumetric data (topographical cylindrical image data) (see col. 9 lines 35-39).

Referring to claims 14, 18, the combination teaches the arrays oppose one another to define an interrogation region therebetween and are arranged to provide a security checkpoint (see figure Yukl figure 4).

Claims 13, 27, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheen et al. US005859609A in view of Yukl US006057761A and Lu et al US 5,720,708. The combination of Sheen and Yukl is silent about combining the image data sets incoherently. Lu teaches a similar system wherein the image data are combined incoherently (see col. 3 line 2 – col. 4 line 5). It would have been obvious to modify the combination to further include combining the image data sets incoherently to increase the signal-to-noise ratio and to improve the quality of the reconstructed image.

Response to Arguments

Applicant's arguments filed September 19, 2006 have been fully considered but they are not persuasive. Regarding claims 1-7 and 27, applicant argues that "neither Sheen nor Yukl teaches or suggests" the claimed "one or more processors operable to establish data corresponding to a topographical representation of the person determined from the interrogation signals". In response: Sheen does teach constructing from the image data topographical representation of the person being interrogated (see figures 6-12, and col. 9 lines 35-60). Regarding claims 8-20, 32, 33, and 36, applicant

argues that in Sheen "the images remain separate images from separate angles. Thus, "volumetric data... indicative of the surface of the person" is not generated from "a plurality of image data sets" as in amended claim 8". In response, Sheen does teach the volumetric data (topographical representation) constructed from overlapping image data sets (see col. 9 lines 49-56). Therefore, the rejections are maintained.

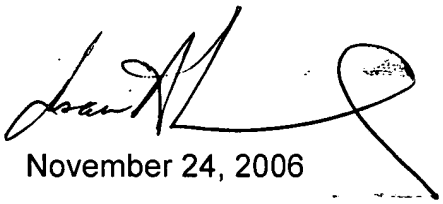
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam Alsomiri whose telephone number is 571-272-6970. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Isam Alsomiri



November 24, 2006